

**Amendment and Response**

Applicant: David C. Collins

Serial No.: 10/820,952

Filed: April 8, 2004

Docket No.: 200400670-1

Title: GENERATING AND DISPLAYING SPATIALLY OFFSET SUB-FRAMES

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**REMARKS**

The following remarks are made in response to the Office Action mailed August 9, 2007. Claims 1-30 were rejected. With this Response, claim 8 has been canceled without prejudice as to the subject matter contained therein. Claims 1, 9, and 25-27 have been amended. Claims 1-30 remain pending in the application and are presented for reconsideration and allowance.

**Requirement for Information**

The Office Action set forth a Requirement for Information that includes the following interrogatories:

1. Are there any applications filed in this or a foreign country that claim the benefit of or priority to this application? If the answer is yes, please list each such application. Also, please disclose each Office action that has been made in each such application.
2. Is applicant or the assignee aware of any application, patent, or printed publication that is not currently cited in this application that discloses or claims generating first and second sub-frames? If so, please disclose each such application.
3. Is applicant or the assignee aware of any application, patent, or printed publication that is not currently cited in this application that discloses or claims alternating between displaying a first sub-frame in a first position and a second sub-frame in a second position that is spatially offset from the first position? If so, please disclose each such application.

Applicants respectfully object to these interrogatories for the following reasons and request clarification from the Examiner as to why these interrogatories are reasonably necessary to examine the present application.

With regard to the first interrogatory, Applicants respectfully submit that requirement of disclosing foreign applications that claim the benefit of or priority to the present application as well as Office actions in such applications exceeds the authority of the U.S. Patent and Trademark Office under 37 CFR 1.105 and unfairly requires the Applicants to publicly identify all foreign patent applications.

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37 CFR 1.105 does not contemplate the required disclosure of non-published foreign applications that claim the benefit of or priority to the present application. In addition, 37 CFR 1.105 does not contemplate the required disclosure of Office actions of such applications. Accordingly, Applicants respectfully submit that the first interrogatory exceeds the authority of the U.S. Patent and Trademark Office under 37 CFR 1.105.

Applicants respectfully submit that the first interrogatory unfairly requires the Applicants to publicly identify all foreign patent applications that claim the benefit of or priority to the present application. This information would readily allow actual and potential competitors to discern countries where no patent protection is being sought. Applicants respectfully submit that it is manifestly unfair for the U.S. Patent and Trademark Office to require such disclosure – particularly where no showing has been made as to how such information is reasonably necessary to examine the present application. Applicants respectfully submit that the first interrogatory is unfair for this additional reason.

With regard to the second and the third interrogatories, Applicants respectfully submit that these interrogatories are overly broad and place an undue burden on the Applicants.

The second and the third interrogatories are overly broad because they are not reasonably limited to information that is relevant to the patentability of claims 1-30 of the present application. The interrogatories require any application, patent, or printed publication that is not currently cited in this application that discloses or claims either “generating first and second sub-frames” (Interrogatory 2) or “alternating between displaying a first sub-frame in a first position and a second sub-frame in a second position that is spatially offset from the first position” (Interrogatory 3) to be disclosed. Claims 1-30, however, recite features beyond “generating first and second sub-frames” (Interrogatory 2) and “alternating between displaying a first sub-frame in a first position and a second sub-frame in a second position that is spatially offset from the first position” (Interrogatory 3). For example, claim 1 recites “wherein the first and the second sub-frames comprise a plurality of sub-frame pixel values and a plurality of error values” and “wherein at least a first one of the plurality of sub-frame pixel values is calculated using the image data, at least a second one of the plurality of sub-frame pixel values, and at least one of the plurality of error values.” Applicants respectfully submit that the second and the third interrogatories are overly broad for this reason and the

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Examiner has set forth no reason why such an expansive scope of the second and the third interrogatories is necessary.

The second and the third interrogatories also place an undue burden on the Applicants to locate and identify additional references. Applicants are fully aware of the duty to disclose material information under 37 CFR 1.56 and have sought to disclose all material information in the present application as evidenced by Information Disclosure Statements filed by Applicants in the present application on April 8, 2004, December 27, 2004, December 1, 2005, and January 19, 2006. In order to comply with the second and the third interrogatories, Applicants would be required to perform an additional search to locate and identify all references that contain “generating first and second sub-frames” (Interrogatory 2) or “alternating between displaying a first sub-frame in a first position and a second sub-frame in a second position that is spatially offset from the first position” (Interrogatory 3) - even if those are not material to the patentability of claims 1-30 or are cumulative with prior references that have already been cited by Applicants and the Examiner in the present application. This presents an undue burden on the Applicants that goes beyond the duty to disclose material information under 37 CFR 1.56 and the Examiner has set forth no reason why such a search by the Applicants is necessary.

Although the Office Action states, with regard to the three interrogatories, that “[t]his information is relevant to patentability”, the Office Action provides no basis for this assertion for any of the three interrogatories. In view of the above objections, Applicants respectfully request that the Examiner clarify the substantive reasons why the information described by each interrogatory is being sought and why it is necessary for Applicants to provide the information.

Based on the above objections, Applicants respectfully request that the Examiner withdraw the Requirement for Information set forth in the present Office Action and, if reasonably necessary as provided by 37 CFR §1.105, issue a new Requirement for Information that overcomes the above objections in a subsequent Office Action.

**Specification**

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The title of the invention is objected to as not being descriptive given the large number of co-pending applications that have the same title as the application. Applicants have amended the title and respectfully request the withdrawal of the objection to the title.

The disclosure is objected to because the applications listed in the cross-reference section may have issued as patents. Applicants have amended the cross-references to include issued patent numbers and respectfully request the withdrawal of the objection to the disclosure.

**Double Patenting**

Claims 1-30 are provisionally rejected on the ground of nonstatutory double patenting over:

1. Claims 1-29 of co-pending Application No. 10/821,130 in view of Super-Resolution Composition in Multi-Projector Displays” by Jaynes et al. (Jaynes);
2. Claims 1-29 of co-pending Application No. 10/864,125 in view of Jaynes;
3. Claims 1-25 of co-pending Application No. 10/868,638 in view of Jaynes;
4. Claims 1-29 of co-pending Application No. 10/868,719 in view of Jaynes;
5. Claims 1-27 of co-pending Application No. 10/992,926 in view of Jaynes;
6. Claims 1-32 of co-pending Application No. 10/750,591 in view of Jaynes;
7. Claims ??? of co-pending Application No. 10/697,605 in view of Jaynes;
8. Claims 1-42 of co-pending Application No. 10/696,888 in view of Jaynes;
9. Claims 1-33 of co-pending Application No. 10/821,135 in view of Jaynes;
10. Claims 1-24 of co-pending Application No. 10/632,042 in view of Jaynes;
11. Claims 1-20 of co-pending Application No. 10/672,544 in view of Jaynes;
12. Claims 1-30 of co-pending Application No. 10/768,621 in view of Jaynes;
13. Claims 1-32 of co-pending Application No. 10/768,215 in view of Jaynes;
14. Claims 1-30 of co-pending Application No. 10/947,762 in view of Jaynes; and

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15. Claims 1-26 of co-pending Application No. 10/996,083 in view of Jaynes.

Claims 1-30 are rejected on the ground of nonstatutory double patenting over:

1. Claims 1-33 of U.S. Patent No. 7,030,894 in view of Jaynes;
2. Claims 1-60 of U.S. Patent No. 7,034,811 in view of Jaynes; and
3. Claims 1-37 of U.S. Patent No. 7,109,981 in view of Jaynes.

As noted in the Office Action, none of the claims in the above applications or patents teaches the following features recited in claims 1-30 of the present application.

With regard to claim 1 and dependent claims 2-11, none of the claims in the above applications or patents recites:

generating first and second sub-frames, wherein the first and the second sub-frames comprise a plurality of sub-frame pixel values and a plurality of error values, and wherein at least a first one of the plurality of sub-frame pixel values is calculated using the image data, at least a second one of the plurality of sub-frame pixel values, and at least one of the plurality of error values;  
alternating between displaying the first sub-frame, including displaying the first one of the plurality of sub-frame pixel values, in a first position and displaying the second sub-frame, including displaying the second one of the plurality of sub-frame pixel values, in a second position spatially offset from the first position.

With regard to claim 12 and dependent claims 13-19, none of the claims in the above applications or patents recites:

an image processing unit configured to generate first and second sub-frames comprising a plurality of rows of sub-frame pixel values, wherein each of the sub-frame pixel values in each of the plurality of rows is calculated using the image data, at least one sub-frame pixel value from a previous one of the plurality of rows, and at least one error value . . . .

With regard to claim 20 and dependent claims 21-24, none of the claims in the above applications or patents recites:

means for generating a sub-frame pixel value using the row of history values and error values and the plurality of rows of initial values.

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With regard to claim 25 and dependent claims 26-30, none of the claims in the above applications or patents recites:

generating a first sub-frame pixel value using the image data and the first plurality of initial values, wherein the first sub-frame pixel value comprises a first history value; ...

generating a second sub-frame pixel value using the image data, the second plurality of initial values, the first history value, and the first error value.

The Office Action cites Figure 4 and Equation 7 of Jaynes as a teaching or suggestion of the features of claims 1-30 that are not recited in the claims of the above applications or patents. Figure 4 of Jaynes “depicts the theoretical problem [of Jaynes] to be solved” (paragraph above Figure 4) without illustrating a solution to the problem as recited in claims 1-30. Accordingly, Figure 4 of Jaynes does not teach or suggest the above features of claims 1-30.

Equation 7 teaches away from the invention recited in claims 1-30 by teaching “an iterative algorithm that seeks to minimize the difference between the different components and the image target.” Jaynes paragraph above Figure 7 (emphasis added). The invention of claims 1-30 contemplates a one pass algorithm. For example, claim 1 recites “wherein at least a first one of the plurality of sub-frame pixel values is calculated using the image data, at least a second one of the plurality of sub-frame pixel values, and at least one of the plurality of error values ... .” See also, Specification, p. 53, lines 4-6. Accordingly, Equation 7 of Jaynes also does not teach or suggest the above features of claims 1-30.

Because neither the claims of the above applications or patents nor Figure 4 or Equation 7 of Jaynes teach or suggest all of the features of claims 1-30, Applicants respectfully request the withdrawal of the non-statutory double patenting rejections of claims 1-30 for at least these reasons.

**Claim Rejections under 35 U.S.C. § 101**

Claims 25-30 are rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter.

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Applicants have amended claims 25-27 as suggested by the Examiner and respectfully request the withdrawal of the rejection under 35 U.S.C. §101.

**Claim Rejections under 35 U.S.C. § 103**

Claims 1-30 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 7,034,811 issued to Allen in view of Jaynes.

Allen and the present application were, at the time the invention of the present application was made, owned by or subject to an obligation of assignment to Hewlett-Packard Development Company, L.P.

Allen was originally assigned to Hewlett-Packard Company (Reel/Frame 013561/0663) and was subsequently assigned to Hewlett-Packard Development Company, L.P. as recorded on June 8, 2003 (Reel/Frame 013776/0928).

The present application was assigned to Hewlett-Packard Development Company, L.P. on April 7, 2004 (Reel/Frame 015203/0274).

Accordingly, Applicants respectfully submit that Allen is disqualified as prior art under 35 U.S.C. §103(c) and respectfully request the withdrawal of the rejection of claims 1-30 under 35 U.S.C. §103(a).

**CONCLUSION**

In view of the above, Applicant respectfully submits that pending claims 1-30 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1-30 is respectfully requested.

No fees are required under 37 C.F.R. 1.16(h)(i). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 08-2025.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Any inquiry regarding this Amendment and Response should be directed to either Timothy F. Myers at Telephone No. (541) 715-4197, Facsimile No. (541) 715-8581 or Christopher P. Kosh at Telephone No. (512) 241-2403, Facsimile No. (512) 241-2409. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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